



I.3.2. Holding workshops on test construction and the corresponding table of specifications

**Master of Science in
Animal Science**

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What are the general guidelines in writing multiple-choice test items?

Writing multiple choice items requires content mastery, writing skills, and time. Only good and effective items should be included in the test. Poorlywritten test items could be confusing and frustrating to learners and yield test scores that are not appropriate to evaluate their learning achievement.

According to David, et al (2020), the multiple-choice test items are classified in terms of content, stem, and options.

Content:

1. Write items that reflect only one specific content and cognitive processing skills.

Faulty: Which of the following is a type of statistical procedure used to test a hypothesis regarding significant relationship between variables, particularly in terms of the extent and direction of association?

- | | |
|------------------|-----------------------|
| A. ANCOVA | C. Correlation |
| B. ANOVA | D. t-test |

Good: Which of the following is an inferential statistical procedure used to test a hypothesis regarding significant differences between two qualitative variables?

- | | |
|------------------|-----------------------------|
| A. ANCOVA | C. Chi-Square |
| B. ANOVA | D. Mann-Whitney Test |

2. Do not lift and use statements from the textbook or other learning materials as test questions.

3. Keep the vocabulary simple and understandable based on the level of learners/examines.

4. Edit and proofread the items for grammatical and spelling before administering them to the learners.

Stem:

1. Write the directions in the stem in a clear and understandable manner.

Faulty: Read each question and indicate your answer by shading the circle corresponding to your answer.

Good: This test consists of two parts. Part A is a reading comprehension test, and Part B is a grammar/language test. Each question is a multiplechoice test item with five (5) options. You are to answer each question but will not be penalized for a wrong answer or for guessing. You can go back and review your answers during the time allotted.

2. Write stems that are consistent in form and structure, that is, present all items either in question form or in descriptive or declarative form.

Faulty: (1) Who was the Philippine president during Martial Law?

(2) The first president of the Commonwealth of the Philippines was _____.

Good: (1) Who was the Philippine president during Martial Law? (2) Who was the first president of the Commonwealth of the Philippines?

3. Word the stem positively and avoid double negatives, such as NOT and EXCEPT in a stem. If a negative word is necessary, underline or capitalize the words for emphasis

Faulty: Which of the following is not a measure of variability?

Good: Which of the following is NOT a measure of variability?

4. Refrain from making the stem too wordy or containing too much information unless the problem/question requires the facts presented to solve the problem.

Faulty: What does DNA stand for, and what is the organic chemical of complex molecular structure found in all cells and viruses and codes genetic information for the transmission of inherited traits?

Good: As a chemical compound, what does DNA stand for?

Options:

1. Provide three (3) to five (5) options per item, with only one being the correct or best answer/alternative.

2. Write options that are parallel or similar in form and length to avoid giving clues about the correct answer.

Faulty: What is an ecosystem?

A. It is a community of living organisms in conjunction with the nonliving components of their environment that interact as a system. These biotic and abiotic components are linked together through nutrient cycles and energy flows.

B. It is a place on Earth's surface where life dwells.

C. It is an area that one or more individual organisms defend against competition from other organisms.

D. It is the biotic and abiotic surroundings of an organism or population.

E. It is the largest division of the Earth's surface filled with living organisms.

Good: What is an ecosystem?

A. It is a place on Earth's surface where life dwells.

B. It is the biotic and abiotic surroundings of an organism or population.

C. It is the largest division of the Earth's surface filled with living organisms.

D. It is a large community of living and non-living organisms in a particular area.

E. It is an area that one or more individual organisms defend against competition from other organisms.

3. Place options in a logical order (e.g., alphabetical, from shortest to longest).

Faulty: Which experimental gas law describes how the pressure of gas tends to increase as the volume of the container decreases? (i.e., "The absolute pressure exerted by a given mass of an ideal gas is inversely proportional to the volume it occupies.")

- A. Boyle's Law
- B. Charles Law
- C. Beer Lambert Law
- D. Avogadro's Law
- E. Faraday's Law

Good: Which experimental gas law describes how the pressure of gas tends to increase as the volume of the container decreases? (i.e., "The absolute pressure exerted by a given mass of an ideal gas is inversely proportional to the volume it occupies.")

- A. Avogadro's Law
- B. Beer Lambert Law
- C. Boyle's Law
- D. Charles Law
- E. Faraday's Law

4. Place correct response randomly to avoid a discernable pattern of correct answers.

5. Use None-of-the-above carefully and only when there is one absolutely correct answer, such as in spelling or math items.

Faulty: Which of the following is a nonparametric statistic?

- A. ANCOVA
- B. ANOVA
- C. Correlation
- D. t-test
- E. None of the above

Good: Which of the following is a nonparametric statistic?

- A. ANCOVA
- B. ANOVA
- C. Correlation
- D. Mann-Whitney U
- E. t-test

6. Avoid All of the Above as an option, especially if it is intended to be correct answer.

Faulty: Who among the following has become the President of Philippine Senate?

- A. Ferdinand Marcos
- B. Manuel Quezon
- C. Manuel Roxas
- D. Quintin Paredes
- E. All of the above

Good: Who was the first ever, President of the Philippine Senate?

- A. Ferdinand Marcos
- B. Manuel Quezon
- C. Manuel Roxas
- D. Quintin Paredes
- E. All of the above

7. Make all options realistic and reasonable.